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ABSTRACT

This study focused on which countries (besides the United States) produced the most doctorates in the education field, based on data provided by the National Research Council. The study combined the baccalaureate origins of education doctorates with the rankings of countries, and considered each country's cultural, social, economic, and political practices. Findings include: (1) the top five ranked countries which produced the most doctorates in education were respectively, Canada, Thailand, Iran, South Korea and Taiwan (tie), and Nigeria; (2) the countries that produced the most men doctorates in education were Canada, Iran, Saudi Arabia, Nigeria, and South Korea; (3) the countries which produced the most women doctorates in education were Thailand, Canada, Taiwan, South Korea, and the Philippines; (4) the top-ranked countries which produced more men than women doctorates in education were Saudi Arabia, Nigeria, Iran, Canada, and Egypt; and (5) the top-ranked countries which produced more women than men doctorates in education were Thailand, the Philippines, Hong Kong, Brazil, and West Germany. The study notes that the U.S. produced more doctorates in education than all the other countries combined between 1980 and 1989, and it hypothesizes that those nations with egalitarian values, booming industries, and stable governments would most likely have more students seeking higher education. An appendix provides complete data for all countries. (Contains 10 references.) (JDD)

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Baccalaureate Origins of Education Doctorates Around the World

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SUMMARY

Countries other than the United States of America have fared well in comparative rankings regarding education during the 1980s. This study focused on which countries produced the most doctorates in the education field based on data provided by the National Research Council. Each country's cultural/social/economic/political practices during the immediate past decade were also considered for the data analysis of this study.

The top five-ranked countries which produced the most doctorates in education were, respectively, Canada, Thailand, Iran, South Korea and Taiwan (tie) and Nigeria.

The top five-ranked countries which produced the most men doctorates in education were, respectively, Canada, Iran, Saudi Arabia, Nigeria and South Korea.

The top five-ranked countries which produced the most women doctorates in education were, respectively, Thailand, Canada, Taiwan, South Korea and the Philippines.

The top five-ranked countries which produced more men than women doctorates in education were, respectively, Saudi Arabia, Nigeria, Iran, Canada and Egypt.

The top five-ranked countries which produced more women than men doctorates in education were, respectively, Thailand, the Philippines, Hong Kong, Brazil and West Germany.

NOTES ON THE CONTRIBUTOR

Edna R. Bautista is a candidate for the Doctor of Education degree in higher education/mass communications at Oklahoma State University where she is interested in studying curriculum of international journalism programs. She earned her Master of Science degree in mass communications at Oklahoma State University in May, 1991, and her Bachelor of Arts degree in communication at Chaminade University of Honolulu in December, 1989. She thanks her advisor, Dr. David S. Webster, for supporting this study.

Baccalaureate Origins of Education Doctorates Around the World

EDNA R. BAUTISTA

Introduction and Methodology

The United States of America (USA) ranks first in the world for the country which produced the highest number of people who eventually earned doctoral degrees in education between 1980 and 1989.

In comparing higher education, the USA was used as a basis to study how other countries ranked in their production of doctorates in education.

Comparative education in general in the USA has been a topic of concern for scholars in this field and for the government agencies.

"Indeed, it has been a source of concern since 1957, when Sputnik went into orbit--an event that was interpreted as reflecting American inferiority in science and technology," wrote Torsten Husen, professor in the Institute of International Education at the University of Stockholm, Sweden, in his 1983 article entitled, "Are Standards in U.S. Schools Really Lagging Behind Those In Other Countries?" which appeared in *Phi Delta Kappan*. "But this time the concern is somewhat different: the declining competitiveness of American high-technology products. And this time it is not the Soviets but the Japanese who cause concern."

But one comparison of proving the quality of higher education in the USA is through international rankings, more specifically, which result from baccalaureate origin studies.

Some studies, like this one, focus of specific fields. M. Elizabeth Tidball and Vera Kistiakowsky focused on the "Baccalaureate Origins of American Scientists and Scholars" in 1976. Alfred E. Hall focused on the "Baccalaureate Origins of Doctoral Recipients in Psychology: 1920-1980" in 1985. And an unidentified scholar focused on the "Baccalaureate Origins of Recent Natural Science Doctorates" in 1986.

Additionally, rankings of countries based on various aspects of the education systems (government expenditures, enrollment, student-teacher ratios or literacy rates) appear in statistical yearbooks such as *Book of Vital World Statistics, Book of World City Rankings* and *The New Book of World Rankings*.

This particular study, however, combined the baccalaureate origins of education doctorates with the rankings of countries, and specifically focused on which of them, besides the USA,

1) produced the most doctorates in education between 1980 and 1989,
2) produced the most men who earned doctorates in education between 1980 and 1989,
3) produced the most women who earned doctorates in education between 1980 and 1989,
4) produced more men than women who earned doctorates in education between 1980 and 1989, and
5) produced more women than men who earned doctorates in education between 1980 and 1989.

Each country's cultural/social/economic/political practices during the immediate past decade were also considered for the interpretation of the findings/rankings of this study.

Data about baccalaureate origins of doctorates in the field of education from each country were extracted from a recent report, *Survey of Earned Doctorates*, organized by the National Research council.

Refer to the appendix for complete data of all countries in alphabetical order. Findings for this study, which show the top five ranked countries per category, were summarized in tables.

Findings

Countries with Most Doctorates in Education

The USA's northern and most comparable neighbor, Canada, ranked first as the country which produced the most doctorates in education in the world, behind USA (total: 60,913). "No socialist of communist country has ever surpassed the USA or Canada in this ranking" (Kurian, 1991).

Canada's first position in this category is justified by its high national literacy rate (99%), educational expenditure per capita ($983) and its stable political and economic situation during the 1980s.

Three Asian countries, Thailand, South Korea and Taiwan, also were ranked in the top five of this category. Their rankings perhaps are due to the fact that they are also among the highly industrialized nations in Asia.

> Clearly, industrialization is closely linked with providing postsecondary education to an expanding corps of engineers, specialists and scientists. Quite remarkable is South Korea's experience; in 1988, the total number of its postsecondary students was 120 times higher (almost 1 million) than in 1945 (Kurian, 1991).

Moreover, South Korea's rank is admirable since that country's attention on higher education was diverted instead to the threat of North Korean invasion, student demonstrations against the government, the loss of a commercial plane over a disputed Soviet air territory and the 1988 Summer Olympic Games.

Also, despite their drastic political transitions during the 1980s, Iran in Eurasia and Nigeria in Africa also were included in the ranking of which countries produced the most doctorates in education.

Iran's doctorate production seemed undisturbed by the turn-of-the-decade hostage crisis; the war with its neighbor, Iraq; the fall of the Shah and the return to fundamental Islam under the Ayatollah Khomeini.

Likewise, Nigeria's doctorate production survived the military overthrow of its democratic government.

INSERT TABLE I HERE

Countries with Most Men Doctorates in Education

Canada produced the most men doctorates in education, after the USA (total: 28,654), and was followed by Iran in Eurasia, Saudi Arabia in the Middle East, Nigeria in Africa and South Korea in Northeast Asia.

Although South Korea has a higher male literacy rate (97.5%) than that of Canada (95.6%), the latter country still ranked first in this category.

The other top three countries, Iran, Saudi Arabia and Nigeria, although each country has low male literacy rates of 55.4%, 58% and 53.8%, respectively, ranked highly, reflecting predominant, societal attitudes of encouraging men over women to seek higher education.

INSERT TABLE II HERE

Countries with Most Women Doctorates in Education

The Asian countries dominated the rankings with most women doctorates in education. Although it ranked a close second behind Thailand, Canada also appeared again on this category's list. Note that the USA's total for women doctorates in education is 32,259.

All countries ranked in this category have very high female literacy rates (between 84.5% and 95.7%).

With few exceptions, the female populations of all nation-states tend to be more

> illiterate than male populations. This partly reflects the fact that women are more numerous than men in a majority of nation-states. It also points out a substantial prejudice against female education....Muslim nations also discriminate against female literacy, and until recently, sending a girl to school constituted a crime in some of them...However, these policies are being overturned, and the number of females enrolled in Muslim schools and universities has risen dramatically (Kurian, 1991).

Enrollment of women in Canadian schools and universities also has gradually increased, perhaps being influenced by the women in its southern neighboring country, the USA, who earned some equal rights during the 1970s.

Even Asian women have moved for equal rights. Once stereotyped as the "docile, submissive Oriental doll...or the Suzie Wong, sex-pot...efficient secretary, sexy stewardess (or) the good housekeeper and domestic," Asian women, such as those in Thailand, Taiwan, South Korea and the Philippines, have emerged as heads of states, administrators and doctorates (*Asian Women*, 1971).

INSERT TABLE III HERE

Countries with More Men than Women Doctorates in Education

Two Middle-Eastern neighbors, Saudi Arabia and Egypt, ranked in the top five countries with more men than women doctorates in education. Nigeria in Africa, Iran in Eurasia and

Canada in North America were also included in this ranking. The USA did not even rank in this category.

> In many places, there still exists today widespread discrimination and prejudice against women receiving university educations and entering public life--even though it may be the case that they make better university students....Historically, Islamic and African countries have most discriminated against women (Kurian,).

Four of these countries, with the exception of Canada, are Islamic countries.

INSERT TABLE IV HERE

Countries with More Women than Men Doctorates

Three Asian countries, Thailand, the Philippines and Hong Kong, ranked in the top three of this category, after the USA (total: -3,605) and was followed, respectively, by a Latin American and European country, Brazil and West Germany.

Again, the rising status of Asian women, especially in higher education, is evidenced in this category.

An unexpected ranking, however, was made by Brazil. It is the only Latin American country which ranked in any of the categories in this study and it is the only and largest Latin American country which is of the Portuguese instead of the Spanish culture. Also,

Brazil "has a large and dynamic economy compared with most of Latin America" (Flora, 1982), and its fourth rank could have been attributed to the 'economic miracle' of the 1970s, when many Brazilian women sought better social and equal opportunities through employment and higher education.

And facing similar, historically social and equal opportunity influences is fifth ranked West Germany, the only European country ever to place in any of the categories of this study. With its recent reunification with East Germany, its position will probably change in future rankings.

INSERT TABLE V HERE

Conclusions

While the USA produced the most doctorates in education (60,913) than all the other countries combined (5,992) between 1980 and 1989, it should be noted that the USA's position may change when comparing it to other countries, depending on the number of institutions of higher education, cultural/social/economic/political practices, population and field of study.

Depending on the number of institutions of higher education per country, hypothetically, those nations with more universities and colleges would most likely produce more baccalaureate recipients and with more opportunities for them to pursue

doctoral study. If this factor was taken into account, these international rankings definitely would be altered.

An initial attempt was made for this study to rank countries by the proportion of education doctorates to the number of institutions of higher education. However, the ratios could not be calculated because United Nations source books provided inconsistent statistics. Frequently, these statistics per country included the total number of universities and colleges with the addition of normal schools and vocational institutes under the tertiary education tables, and provided estimates of the total number of schools or, simply, figures were not available at all.

Depending on the cultural/social/economic/political practices of a country, hypothetically, those nations with egalitarian values, booming industries and stable governments would most likely have more students attending schools with encouragement for them to seek higher education.

Marlin, et. al (1986) confirmed that

> education systems are determined by cultural, social, economic, and political practices. Centralized education systems, such as those in the [former] Soviet Union and the social democratic countries of Western Europe, are usually guided and heavily subsidized by national government ministries. In decentralized education systems such as those in the United States, state, provincial, country, and local government agencies control and for the most part finance education and schooling.

Furthermore, "for developing nations, a government's ultimate commitment to education is probably best gauged by its education expenditures....Education is directly related to industrialization, and demands substantial government investments" (Kurian, 1991).

Depending on the population of a country, hypothetically, those with proportionately dense or sparse populations per student would alter these international rankings, reflecting those "nation-states whose populations live in predominantly urban environments, as city dwellers have relatively easier access to the means of learning" (Kurian, 1991).

And depending on the field of study, these international rankings also would be altered. For instance, the USA, former Soviet Union and Japan might show fierce competition in the fields of science and technology.

These rankings of countries by any study, besides by baccalaureate origins, are subject to change, especially with the creation of new nations in Europe, the rise of economic power in Asia and other events occurring in the 1990s, the last decade of the twentieth century.

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TABLE I. Countries with most doctorates in education during the 1980s

Rank	Country	Total doctors
1	Canada	672
2	Thailand	464
3	Iran	390
4	South Korea	344
4	Taiwan (Republic of China)	344
5	Nigeria	272

TABLE II. Countries with most men doctorates in education during the 1980s

Rank	Country	Total men doctors
1	Canada	405
2	Iran	390
3	Saudi Arabia	250
4	Nigeria	235
5	South Korea	215

TABLE III. Countries with most women doctorates in education during the 1980s

Rank	Country	Total women doctors
1	Thailand	268
2	Canada	267
3	Taiwan (Republic of China)	145
4	South Korea	129
5	Philippines	111

TABLE IV. Countries with more men than women doctorates in education during the 1980s

Rank	Country	Men-women difference
1	Saudi Arabia	238
2	Nigeria	198
3	Iran	172
4	Canada	138
5	Egypt	129

TABLE V. Countries with more women than men doctorates in education during the 1980s

Rank	Country	Men-women difference
1	Thailand	-71
2	Philippines	-67
3	Hong Kong	-23
4	Brazil	-19
5	West Germany	-15

COUNTRY	TOTAL DRS	MALE DRS	FEMALE DRS	M-W DIFF
All Foreign	5992	3837	2155	1682
Afganistan	4	4	0	4
Algeria	4	2	0	2
Angola	2	2	0	2
Antilles-Netherlands	2	1	1	0
Argentina	24	10	14	-4
Australia	249	184	65	119
Austria	1	1	0	1
Bangladesh	6	4	2	2
Barbados	2	2	2	0
Belguim	11	6	5	1
Benin	1	1	0	1
Botswana	2	1	1	0
Brazil	161	71	90	-19
Burkina Faso	3	3	0	3
Burma	1	0	1	-1
Burundi	2	2	0	2
Cambodia	1	1	0	1
Cameroon	12	12	0	12
Canada	672	405	267	138
Caribbean Isles	1	1	1	0
Chile	39	24	15	9
China	30	21	9	12
Colombia	39	21	18	9
Costa Rica	22	14	8	6
Cuba	8	4	4	0
Cyprus	1	1	0	1
Czechoslovakia	2	2	0	2
Denmark	3	1	2	-1
Dominican Republic	2	2	2	0
Ecuador	7	3	4	-1
Egypt	263	196	67	129
El Salvador	2	0	2	-2
England	194	122	72	50
Ethiopia	11	11	0	11
Fiji	2	2	0	0
Finland	7	4	3	1
France	26	16	10	6
Germany, East	1	0	1	-1
Germany, West	23	4	19	-15
Ghana	41	38	3	35
Greece	28	16	12	4
Guinea	1	1	0	1
Guyana	4	2	2	0
Haiti	7	6	1	5
Honduras	1	1	1	0
Hong Kong	29	3	26	-23

COUNTRY	TOTAL DRS	MALE DRS	FEMALE DRS	M-W DIFF
Hungary	2	1	0	1
Iceland	4	2	2	0
India	207	115	92	23
Indonesia	98	79	19	60
Iran	390	281	109	172
Iraq	105	92	13	79
Ireland, Northern	2	1	1	0
Ireland, Republic of	47	31	16	15
Israel	124	57	67	-10
Italy	17	12	5	7
Ivory Coast	2	1	0	1
Jamaica	43	17	26	-9
Japan	115	71	44	27
Jordan	61	54	7	47
Kenya	22	14	8	6
Kuwait	32	20	12	8
Laos	1	0	1	-1
Lebanon	92	59	33	26
Lesotho	5	5	0	5
Liberia	22	18	4	14
Libya	42	40	2	38
Malawai	1	1	0	1
Malaysia	83	54	59	25
Mali	4	4	0	4
Mexico	78	46	32	14
Morocco	8	6	2	1
Nepal	13	12	1	11
Netherlands	7	6	1	5
New Guinea	1	1	0	1
New Zealand	22	16	6	10
Nicaragua	3	1	2	-1
Nigeria	272	235	37	198
North Korea	1	1	0	1
North Vietnam	8	5	3	2
Norway	2	0	2	-2
Pakistan	48	33	15	18
Palestine	1	1	0	1
Panama	8	2	6	-4
Papua	2	0	2	-2
Paraguay	1	0	1	-1
Peru	14	8	6	2
Philippines	154	44	111	-67
Poland	5	3	2	1
Portugal	16	8	8	0
Qatar	1	1	0	1
Romania	2	10	1	0
Rwanda	4	4	0	4

COUNTRY	TOTAL DRS	MALE DRS	FEMALE DRS	M-W DIFF
Saudi Arabia	262	250	12	238
Scotland	13	5	8	-3
Senegal	1	1	0	1
Sierra Leone	24	19	5	14
Singapore	16	7	9	-2
Somalia	2	1	1	0
South Africa	57	35	22	13
South Korea	344	215	129	86
Spain	11	8	3	5
Sri Lanka	11	4	7	-3
Sudan	14	14	0	14
Swaziland	3	2	1	1
Sweden	7	2	5	-3
Switzerland	12	6	6	0
Syria	16	13	3	10
Taiwan, Republic of	344	199	145	54
Tanzania	16	14	1	14
Thailand	465	197	268	-71
Trinidad/Tobago	10	4	6	-2
Turkey	24	14	10	4
Uganda	13	11	2	9
Uruguay	1	1	0	1
USA	60913	28654	32259	-3605
USSR	2	0	2	-2
Venezuela	116	62	54	8
Wales	4	3	1	2
Yemen	9	8	1	7
Yugoslavia	1	1	0	1
Zaire	8	8	0	8
Zambia	18	15	3	12
Zimbabwe	6	5	0	4